Closing the Summer Learning Gap for Vulnerable Junior Kindergarten Students

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Abstract

Under current academic calendars across North America, summer vacation creates a significant gap in the learning cycle. It has been argued that this gap actually *decreases* student achievement levels over the course of the summer. In a synthesis of 39 studies Cooper, Nye, Charlton, Lindsay, & Greathouse (1996) indicated that summer learning loss equaled at least one month of instruction as measured by grade level equivalents on standardized test scores whereby children's test scores were at least one month lower when they returned to school in the fall than scores were when students left in the summer. Specifically, Cooper et al., (1996) found that the summer learning loss phenomena may be particularly troublesome for less advantaged children including those with speech and language delays, children at-risk for reading disabilities, children from lower socio-economic backgrounds, and children learning English as a second language. In general, research illustrated clearly that the summer learning gap can be particularly problematic for vulnerable children and furthermore, that literacy skills may be the area of achievement that is most affected.

A foundational pillar to this research project is including primary caregivers as authentic partners in a summer literacy program designed to support their children's literacy needs. This pillar led the research team to use the Learning Begins at Home: A Research-Based Family Literacy Program Curriculum designed by Antoinette Doyle, Kathleen Hipfner-Boucher, and Janette Pelletier from the Ontario Institute for the Studies of Education. The LBH program is designed to be flexibly adapted to suit the needs of each individual participating family. As indicated by Timmons (2008) literacy interventions are most powerful when they include authentic family involvement. Based on this research, a requirement for participating in the

summer literacy program was involvement of a child and one of their primary caregivers. The participating caregiver was integrally involved in the program, participating in workshop activities prior to and following hands-on literacy work with their child. By including primary caregivers as authentic partners, the research team encouraged a paradigmatic shift in the family whereby literacy activities become routine within their household.

Participants in this study were 14 children from junior kindergarten classrooms within the Niagara Catholic District School Board. As children were referred to the program, they were assessed by a trained emergent literacy specialist (from Speech Services Niagara) to identify whether they met the eligibility requirements for participation in the summer program. To be eligible to participate, children demonstrated significant literacy needs (i.e. below 25%ile on the Test of Preschool Early Literacy described below). Children with low incidence disabilities (i.e. profound sensory impairments, severe intellectual impairments, developmental disabilities, etc) were excluded as participants. The research team used a standard pre- and posttest design whereby all participating children were assessed with the Test of Preschool Early Literacy (Lonigan et al., 2007), and a standard measure of letter names and sounds. Pretests were administered two weeks prior to the commencement of the program and the first set of posttests was administered immediately following the program. A second set of posttests was administered in December 2009 to measure the sustainability of the program.

As a result of the program, all children scored statistically significantly higher on their literacy scores at the post-program assessment point immediately following the program and also at the Dec-post-program assessment point. These results in general indicated that the summer family literacy program made an immediate impact on the emergent literacy skills of

participating children. All participating children demonstrated significant increases in print and phonological awareness as well as their letter sound understanding.

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CHAPTER 1

INTRODUCTION

Although most children learn to read without significant difficulty, 20% of children will struggle in becoming fluent readers (Bock, 1998). The reading process, or more precisely, the advent of the reading process has been thought traditionally to begin as children enter formal schooling. From this point children spend the next three or four years of schooling "learning to read", emerging in grade four or five as fluent readers. An interesting shift occurs at this point. That is, the school curriculum shifts from learning to read, to reading to learn. This shift creates a substantial challenge for the aforementioned 20% of children who struggle to read. The challenge is that once this curriculum shift occurs, children who have a specific reading difficulty begin to experience global academic difficulties, as many areas of the curriculum (science, math, art, etc.) require fluent reading skills. To illustrate this difficulty, the National Center for Education Studies, (2001) found that 37% of fourth grade students could not read well enough to successfully produce grade-level work in most curriculum areas. Responding to this challenge, research within the last decade has focused on how to *prevent* future reading difficulties by improving emergent literacy instruction and reading outcomes (Torgesen, 2002). The field of reading and literacy has witnessed a shift towards understanding that the reading process begins before children enter school – during an emergent literacy period from the time a child is born until age five (Teal and Sulzby, 1996). As a result, early identification of reading difficulties and intervention for struggling readers has been widely recommended to schools and other organizations serving young children (Steele, 2004). Many professionals, including those from the fields of psychology, science, education, and medicine have attended to the critical

nature of the early years (birth – five years of age) for learning and particularly, literacy (Steele, 2004). Emergent literacy may be formally defined as the developmental period of literacy between birth to the age of six (Teale and Sluzby, 1986). It is recognized that while preschoolers are not formally reading, they are acquiring the skills they will need to read later in their academic careers (Whitehurst & Lonigan, 1998). Research indicates that achievements in literacy skills during the preschool and kindergarten years are associated with later success in reading (Adams, 1990; Mason & Allen, 1986; Snow, Burns & Griffin, 1998). Therefore, emergent literacy programs are important because they allow for early identification and intervention for those children who are at risk for future reading failure. Current research exploring vulnerable learners during the early years has indicated that the summer months, or summer vacation, may be a particularly problematic time.

Under current academic calendars across North America, summer vacation creates a significant gap in the learning cycle. It has been argued that this gap may actually decrease student achievement levels over the course of the summer (Cooper, Nye, Charlton, Lindsay, & Greathouse, 1996). Cooper et al., (1996) found that children show little or no academic increase over the summer and in fact, lose on average between 1 – 3 months of learning. Furthermore, Cooper et al., (1996) found that summer learning loss is particularly problematic of vulnerable children and children from lower socio-economic families, English language learners, and those with cognitive processing difficulties. One of the primary objectives of the current study was to explore programs that reverse the summer learning loss often experienced by vulnerable learners.

When establishing literacy support programs for young vulnerable learners, achievement gains are most substantial when the program includes a focus on supporting caregivers in addition to the participating children. Research has demonstrated that in addition to literacy

programs, caregivers alone, can have a strong effect on their child's individual reading achievement (Leseman & de Jong, 1998). Timmons (2008) suggests that literacy interventions are most powerful when they include the family and as such, the current study is aimed at supporting vulnerable children *and* their primary caregivers.

With these key components (gap in learning cycle, vulnerable children and importance of family) in mind, closing the gap between research, practice and policy makers will be accomplished by evaluating the effectiveness of intervention programs within a realistic setting with the use of practitioners (literacy consultants and teachers). This study will assist in exploring if a summer family literacy program intervention is an effective tool to close the summer learning gap and prevent future reading difficulties.

CHAPTER 2

LITERATURE REVIEW

Literacy Defined

The ability to read is one of the most essential and valued skills an individual in our western society can possess. Through this skill individuals are able to communicate with others and gain knowledge. "Society today demands that people be able to read and write and penalizes those who cannot" (Smith, 1990, p. 1). However, "reading is a complex act performed by humans" (Kingston, 1968, p.7). While many children acquire the skill of reading without much difficulty, unfortunately, there is a small group of children who struggle when learning how to read.

Traditionally, it was thought that children were not ready to learn how to read until they entered formal education (Teale & Sulzby, 1989). They were not thought of as having the mental capacity to acquire the complex prerequisites needed for reading. Therefore, it was often not until the entrance to school that children would begin being taught how to read. Teale and Sulzby (1989) completed a thorough review of the historical foundations of literacy and point to the recent evolving of the term "emergent literacy". A change of thinking around literacy began to appear in the relevant research literature in the 1920s (Teale & Sulzby, 1989). In the 1920s educators began to look more closely at the early years of childhood, including the kindergarten years, as a time of preparation; thus it was the period where *reading readiness* began (Teale & Sulzby, 1989). From the late 1920s through the 1960s the idea of young children's reading readiness began to take-hold as an important educational concept (Teale & Sulzby, 1989). For example, during the mid 1960s, Dolores Durkin (1966) started investigating children who *came* to school with the ability to read intact. She studied a sample of children who possessed the

ability to read correctly from a list of common words and the ability to score sufficiently high on a standardized reading test. Durkin conducted two specific studies exploring such children who read before grade one. In her first study (1958) Durkin investigated all of the children entering first grade in the elementary, public schools of Oakland California. Following individual testing, forty-nine were identified as having some ability to read. These children were tested on their reading abilities over the course of their elementary schooling. The early readers were given the Revised Standford-Binet Scale, and interviews were conducted with their families. A control group was introduced to the study while the early readers were in third grade. The control group included 201 children who entered first grade with the early readers, but were unable to read before their first day of school. Reading abilities were measured with all participants and both groups were compared (Durkin, 1963). In her second study (1961) Durkin explored early reading abilities in 4465 children enrolled in New York City elementary, public schools in Manhattan, the Bronx, Brooklyn, and Queens. Durkin assessed all participating children to screen and identify children who demonstrated reading abilities before starting school. One hundred and eighty (180) children from 35 different schools were identified as early readers and tested further on their word recognition and paragraph reading. The children identified as early readers were then compared with a sample of first grade students who were not early readers, but who were comparable in their intelligence. Durkin found that the primary difference between these two groups of readers was parental engagement during the preschool years.

Durkin's findings on both studies indicated the importance of environment in the establishment of reading readiness in young children. Specifically, Durkin found that the most significant predictor of group differences was the amount of time parents read to their young children. In general, more parents of the early readers reported reading to their child before they

started school than of the non-early readers. Also, parents of the early readers not only read to their child but also discussed the pictures in books and pointed out particular words as they read. It was reported by the non-early reader's parents that they felt lessons in reading should be taught by trained professionals, and that they themselves may only cause confusion for their child, if they taught reading. Overall, Durkin started to discover the varied backgrounds young children came from in regards to literacy and the need to support parents as educators of their pre-school children. Parents were interviewed regarding their children's early experiences before entry to school. Durkin (1966) and Clark (1976) found the children were quite variable in most characteristics (including IQ) and that there was a fair amount of consistency in parents reports of key experiences prior to school. In regards to the formation of reading readiness, this period of time, between birth and formal schooling, was referred to as the period of emergent literacy.

Emergent Literacy

Emergent literacy may be defined as the developmental period from birth through age six when children are *in the process of becoming literate* (Teale & Sulzby, 1986; Justice & Pullen, 2003). As there has been an increasing focus on literacy among young children, many researchers have agreed that there is not a specific point of time in life that literacy begins, but that at any point, children are *in the process of becoming literate*, which the term *emergent* suggests (Teale & Sulzby, 1989). Key features of the role the child plays in the process of learning to read are demonstrated through the reasons for the use of the term emergent. Hall (1987) suggests four reasons for the use of the term 'emergent'. First, the term implies that the development of a child as a literacy user comes from within. Second, literacy begins prior to school, rather than waiting until the beginning of school and emergence indicates progressive

course taking place over time. Third, emergent literacy views children as active learners in their environment making sense of their world. Fourth, only if the conditions are correct will literacy emerge. Therefore, there must be meaningful print as well as adult support and engagement (Hall, 1987). Emergent literacy is a relatively recent approach to understanding the development of reading stemming from the recognition that the development of language (oral, reading, writing) is a set of concurrently developing skills that are interrelated (Teale & Sulzby, 1986). During the past two decades, the acceptance of the "emergent literacy" perspective by researchers has made and important contribution to our understanding of literacy development (Whitehurst & Lonigan, 1998). A number of studies centered around emergent literacy have provided evidence that suggests that children are engaging with literacy in a variety of ways during the early years (Campbell, 1995). In general, while preschoolers are not formally reading yet, they are acquiring the skills they will need to read later on.

Importance of Emergent Literacy

An important idea around emergent literacy was that not only is preschool an important developmental period, it is also a time when individual differences in emergent literacy begin to become apparent. As such, it provides stakeholders an opportunity to identify and prevent deficits in emergent literacy. In essence, the developmental period of emergent literacy is a time to consider early identification and prevention programs aimed to support vulnerable children. As alluded to in the previous section, children's emergent literacy achievements in preschool and kindergarten have been demonstrated to be significantly predictive of their later formal reading success (Adams, 1990; Mason & Allen, 1986; Snow, Burns & Griffin, 1998). More specifically, emergent literacy skills most predictive of later reading include phonological, print, and letter

awareness (Snow et al., 1998; Snow, Tabors, Nicholson, & Kurland, 1994). For instance, in a seminal study of emergent literacy, Lonigan, Burgess & Anthony (2000) examine the relationship between emergent literacy skills (print knowledge, oral language, and phonological sensitivity) and later reading achievement. Specifically, Lonigan et. al., examined the joint and unique predictive significance of emergent literacy skills for both later post-emergent literacy skills and formal reading in two samples of preschoolers. Ninety-six children, aged 41 months, were followed from late preschool to grade one. At a pre-test assessment point, children were administered four standardized tests of oral language, four tests of phonological sensitivity, and two tests of nonverbal cognitive ability. At a posttest assessment point in grade two, children were administered four tests of phonological sensitivity, two tests of letter knowledge, an environmental print task, and a print concepts task. Results of this study indicate that children's developmental origins of reading skills in kindergarten and grade one can be found in the preschool period. Emergent literacy skills (i.e. phonological sensitivity and letter knowledge) present during preschool reflect highly stable individual differences and have substantial unique predictive relations with later reading abilities. Together, phonological sensitivity and letter knowledge accounted for 54% of the variance in kindergarten and first-grade children's decoding abilities. These findings highlight the developmental continuity between emergent literacy and later reading from the early preschool period to the early elementary school period.

In a retrospective study, Olofsson & Niedersoe (1999) examined 205 children at the age of eleven (grade four) to explore their early language development and kindergarten phonological awareness to see if they were predictors of reading problems (1999). All 205 participating children had available language and speech achievement records that had been completed during speech and language screening assessments when children were 3-years old. Also available for

all children was their language comprehension and linguistic awareness data from kindergarten and word decoding measures in grades two and three. Results of a retrospective analysis indicated that there were statistically significant relationships between preschool language variables and later grade-level word decoding and sentence reading ability. Also, the researchers found that there were significant relational links between early language variables and word decoding ability several years later. Overall, early language abilities seem to affect reading acquisition, and these effects are both indirect – operating via kindergarten language awareness – and direct from early language to word decoding. A further interesting finding was that the early language – later reading relationship has a direct correlation that was independent of phonological awareness. A primary importance of the Olofsson & Niedersoe (1999) study was that when investigating the relationship between early emergent literacy and later reading it is essential to understand the smaller-lens components of emergent literacy.

Components of Emergent Literacy

Emergent literacy is often hypothesized to consist of three essential components; phonological awareness, letter identification and print awareness (Teale & Sulzby, 1986). Although all three components are essential to emergent literacy, research has consistently demonstrated that letter identification is the most significant predictor of later reading (Catts, Fey, Zhang & Tomblin, 2001).

Letter identification refers to a child's knowledge of the alphabet and individual letter sounds. Research has demonstrated that success in reading is influenced by one's understanding of the sounds associated with the letters of the alphabet (Juel & Meier, 1999). A primary element of the reading process is the understanding that words are composed of individual letters

and that these letters correspond to sounds. This mapping of print to speech that establishes a clear link between a letter and a sound is referred to as alphabetic understanding. The emergent literacy measures of letter knowledge and print concepts knowledge have been shown to be strong predictors of future reading scores (Juel & Meier, 1999). However, there is a significant difference in how children come to acquire letter-sound understanding. Unlike phonological awareness, letter-sound knowledge has little to do with inheritance. Children come to gain letter knowledge through instruction. Typically, this takes place relatively early in a child's pre-school experience. Parents often demonstrate to children that individual letters have names and these letters are associated with individual sounds. In a central study, Catts, Fey, Zhang & Tomblin (2001) examined the relationship between letter knowledge and later reading achievement. More generally, Catts et al., studied a host of kindergarten variables as predictors of second-grade reading outcomes. Six hundred and four children (604) were administered a battery of language, emergent literacy, and nonverbal cognitive measures in kindergarten (i.e. phonological awareness, letter identification). Participating children were studied longitudinally until grade two when they were administered assessments of reading and reading comprehension. Five kindergarten variables were identified as uniquely predicting reading difficulties in grade two; sentence imitation, deletion task, letter identification, rapid naming and mother education (Catts et al, 2001). However, the most statistically significant kindergarten predictor of reading difficulties in second grade was letter identification.

A second component of emergent literacy is phonological awareness. Phonological awareness refers to an individual's mental operations that make use of the phonological or sound structure of oral language when he or she is learning how to decode written language (Torgesen, Wagner & Rashotte, 1994). On its own, phonological awareness has consistently been

demonstrated to be a statistically significant predictor of later reading success (Olofsson & Niedersoe, 1999; Torgesen, et al., 1994). An important element of phonological awareness is one's ability to manipulate phonemes. Activities that demonstrate children's phonological awareness initially may include rhyming tasks, blending tasks, and the ability to match a sound to a particular word (e.g. the sound /b/ is matched with "boy" rather than "toy"). Phonological awareness is a necessary pre-requisite to successful reading as it enables an understanding of how words in our language are represented in print. When children enter school, they begin to learn about the reading process by learning about the alphabetic principle and the way that words are represented in print at the level of phonemes (Torgesen & Mathes, 2000). Children must master phonological principles in order to become good readers. Those children who do not acquire phonological awareness are those who most often become poor readers (Torgesen, 1997). Following the importance of phonological awareness to the concept of emergent literacy research has more recently begun to study how early phonological awareness intervention programs can support young children who may be struggling with phonological awareness skills (Vandervelden & Siegel, 1997). For instance, Ball and Blachman (1991) evaluated the effectiveness of a kindergarten program in phonological awareness. In their study, 89 kindergarten students from three public schools participated in the study and were randomly assigned into one of three groups. The first group participated in a literacy program that included the instructional component of phonological awareness and letter name and letter sound correspondence (phoneme awareness group). The second group worked only on letter name and letter sounds (letter identification group), and the third group (control group) received no intervention. Following a seven-week intervention period, post-test reading data was collected. Results indicated that the phonological awareness group outperformed both the letter

identification only group and the control group (Ball & Blackman, 1991). Both the phoneme awareness group and language activities group scored significantly higher than the control group on letter-sounds (Ball & Blackman, 1991). The phoneme awareness group, scored significantly higher than the other two groups in spelling. Overall, the phoneme awareness group which received the segmenting training and letter name and letter sound instruction, performed better than the two groups receiving less and no training. Combining phoneme awareness with the above mentioned skills made an immediate impact on children's reading and spelling skills (Ball & Blackman, 1991).

The third component of emergent literacy is print awareness. Print awareness refers to environmental print, book awareness and a variety of physical media (Adams, 1990). A child's awareness and sensitivity to print is an important beginning step in the early reading process (Burns et al., 1999). Over the past two decades, research has increasingly acknowledged the importance of children's print knowledge. As Adams (1990) points out, while acknowledgement of pictures in books is useful, it is the familiarity of letters that is critical to reading success (Adams, 1990). Young children, from the time of birth, begin to gain print awareness through exposure to print concepts in their environment (Burns et al., 1999). Young children are typically exposed to print ideas by their caregivers. By beginning to understand print, children will begin to discover that reading and writing are ways for them to gain knowledge (Burns, Griffin, & Snow, 1999). To further encourage or foster print awareness, caregivers and adults can point out print at home, in the public environment, and in the classroom. Justice and Ezell (2000) studied young children's print awareness through a home-based parent intervention program. Twenty-eight parents and their four-year-old child participated in the study. Parents were randomly assigned to an experimental and control group who both received training in the use of print-

referencing behaviours that they could use at home. However, while the control group received the same reading materials and general orientation as the experimental group, they were not instructed to use specific behaviours while reading with their child, but rather, asked to read the books in the same manner as usual (Justice & Ezell, 2000). The experimental group was shown specific interactive reading techniques that focused on print-referencing. The researchers examined the parents' use of print-referencing behaviours while reading with their child (i.e., pointing to print) and assessed the children's emergent literacy skills (i.e., words in print, alphabet knowledge). Researchers also examined parental perceptions about the efficacy of the intervention prior to the program and following the program (Justice & Ezell, 2000). It was concluded that children in the experimental group outperformed the children in the control group on four of the five emergent literacy subtests, the exception being alphabet knowledge. Significant differences were found between groups in three of the five subtests: words in print, print concepts and word segmentation (Justice & Ezell, 2000). Therefore, this study's results indicate that specific print-reference techniques were significantly beneficial for promoting print awareness in young children.

Emergent literacy takes place before children receive any formal education, prior to the beginnings of kindergarten it is important to make sure all children are receiving the instruction they require to become strong readers in later grades. Unfortunately, not all children will become strong readers.

Vulnerable Children

Although most children learn to read without unusual difficulties, about 15-20% of children will experience significant difficulties in learning to read text fluently. There are a

number of factors that can affect children's ability to acquire the fundamentals of fluent reading. It may be considered that children vulnerable to early reading difficulties are affected by one of three broad difficulties; English-language learners (ELL), low socio-economic status (SES), and cognitive processing problems.

English Language Learners

"Concern about the performance chasm in reading achievement between language-minority learners and children whose first language is English is a topic for discussion by educators, policy makers, and covered citizens in many communities" (Grant & Wong, 2003, p.386). However, it may not simply be the learning English as a second language factor per se that affects reading. Rather, research consistently finds an association between ELL and lower socio-economic status that often places children learning English as a second language at a greater risk for academic struggles – more so than children whose first language is English (D'Anguilli, Siegel, Maggi, 2004).

D'Angiulli, Siegel and Maggi investigated the efficacy of a literacy-intensive curriculum implemented with 30 ELL and L1 (English as first language) children entering kindergarten (2004). The literacy intervention consisted of providing the students with a literacy rich environment within their classrooms (K - Gr. 5) by ensuring the students received 20 minutes, three times a week in kindergarten and four times a week in the following grades (D'Angiulli, et al., 2004). Children were pretested in kindergarten prior to receiving the intervention and follow up assessments were conducted each spring. Word reading achievement and socioeconomic status measures were collected. Results indicated that ELL improvers in kindergarten obtained lower scores than the L1 children, but then showed similar gradual improvements at the other critical points, (Gr.'s 1, 3, 5), suggesting that the increase in the amount of instruction is

beneficial for both ELL and L1 children, in that most of them show an improvement in their reading skills over time (D'Angiulli et al., 2004). This study further supports the link between ELL, SES and reading skills (i.e. word reading).

Research shows that vulnerable children are less likely to have the same exposure to a rich literacy environment as more fortunate students for various reasons. Compared to middle-income homes, low-income children have less literacy experiences in the home (i.e. storybook reading, educational toys and library visits) (Goldenberg, 2001). Whitehurst & Lonigan (1998) state that low-income children seem less prepared entering school because of their lack of experience and exposure to books, stories, writing, rhymes and other literacy skills. In other words, there is an association between SES and the amount or type of home-based literacy experiences and the literacy skills and knowledge one has when entering school (Goldenberg, 2001).

Socioeconomic Status

Children who come from lower income homes have been found to have less access to books and time spent with their caregivers learning literacy skills in the home. Often in lower income families, caregivers spend more time outside of the home in the workforce which results in less time spent on literacy activities with their child. Molfese, Modglin and Molfese (2003) studied the influence of environmental factors on intelligence scores by exploring the children's preschool period environment as well as their primary-grade stage and how they are linked to their performance on reading achievement tests. A total of 113 children participated and were assessed at ages three and eight through ten. The study assessed reading achievement and measured the children's environments (i.e. socioeconomic status and Home Observation for Measurement of the Environment). Results showed that for the poor reading group, both the

SES and HOME measures were significant predictors of reading achievement scores at eight years of age (Molfese, et al., 2003). Also, SES and HOME total scores were predictive of reading scores at eight years and word attack scores at ten years of age. Overall, both SES and HOME scores were related to reading abilities.

Cognitive Processing Problems

Torgesen, Wagner, and Rashotte (1994) conducted a seminal longitudinal study of phonological processing and reading aimed at establishing early predictors of school-based reading. In their study, 244 kindergarten children were assessed in phonological awareness, pre-reading print-related skills, and their general verbal ability. At the end of grade one and again at the end of grade two all children were assessed with the same measures. Torgesen et al., (1994) found that individual differences in phonological skills remained stable as children moved from kindergarten to grade two. This was true even when children were receiving early reading instruction (Torgesen, et al., 1994). This stability was not found for the print-related skills. These findings provided support for the conceptualization of phonological skills as stable, permanent individual-difference characteristics that cut across the early school years (Torgesen, et al., 1994). One of the practical implications of this study was the suggestion that phonological variables should be included in assessments that are used to identify children at-risk for reading failure.

Prevention Programs

In general, research over the past two decades has suggested that children at-risk for reading difficulties can be identified and supported before formal schooling begins (Catts et al., 2001). Specifically, it is the developmental period of emergent literacy (from birth to age 6) that

is critical in supporting vulnerable learners. However, although research has acquired a vast understanding of the importance of emergent literacy, the practice of effectively supporting young vulnerable learners has not yet been firmly entrenched. As Torgesen (2002) states, "in spite of all our new knowledge about reading and reading instruction, there is a wide-spread concern that public education is not as effective as it should be in teaching all children to read" (p 7-8). Lyon, Fletcher, Shaywitz, Shaywitz, Torgesen, Wood, Schulte and Olson (2001) emphasize the importance of establishing prevention programs for vulnerable children before formal school begins. Research has demonstrated the consequences of waiting to support struggling readers. The Connecticut Longitudinal Study (Shaywitz, 2003) established that children who are identified as poor readers in second grade rarely catch up to their peers. In other words, grade two is too late to identify vulnerable learners. The study followed children from kindergarten to grade twelve and found that over 70% of the group identified as reading disabled in third grade were still identified as reading disabled in grade twelve. The researchers also reported that students were behind in reading long before they entered third grade. In a similar study, Lyon et al., (2001) found that without early intervention, struggling readers in first grade will most likely continue to be poor readers in middle school, in high school, and also as adults. Lyon et al., (2001) report that there is a wealth of information suggesting that early identification and intervention in kindergarten and first grade may decrease the number of students that may eventually need special education and services. Therefore it is essential to explore prevention.

Most researchers and practitioners agree that reading problems are more difficult to remediate than to prevent (Snow, Burns & Griffin, 1998). Letter knowledge, phonological awareness, and print conventions of children entering school vary significantly (Adams, 1990).

The differences in knowledge and abilities that make students more or less ready to benefit from literacy instruction in grade one can be from a lack of sufficient instruction and language within the student's home environment and preschool (Neisser et al, 1996; Olson, Wise, Johnson & Ring, 1997). Ideally, children identified as at-risk for reading difficulties would be identified during their time in preschool (Catts, Fey, Zhang & Tomblin, 2001). Prevention programs can considerably decrease the number of students who are identified as having a learning disability and who often need special education; preventative programs will prove to have more of an impact than remedial programs (Lyon et al, 2001). Lyon et al., estimate that the number of students who are routinely labeled as inadequate readers are assisted with either compensatory education programs or special education could potentially be reduced by up to 70% by way of early identification and prevention programs (2001).

Otaiba & Fuchs conducted a study aimed at identifying children's characteristics that could predict responsiveness and nonresponsiveness to effective literacy interventions (2006). Nonresponsiveness to intervention, meaning performing in the lowest 30th percentile of intervention children on the amount of pre-to post intervention growth on segmentation fluency and letter-sound measures at the end of kindergarten (Otaiba & Fuchs, 2006). In first grade, nonresponsiveness was defined as students who performed low in reading fluency. Kindergarten children in the responsive intervention group showed growth on rapid letter sound fluency and segmentation, scoring at or above the intervention group's mean. Grade one students were considered responsive if their reading fluency was at or above the intervention group's mean by the end of the year (Otaiba & Fuchs, 2006). A total of 104 children participated in this study and were tested in kindergarten and first grade. Combining naming speed, vocabulary, problem behaviour, sentence imitation and amount of intervention correctly predicted 82.1 % of

nonresponsive students, 30.0% of sometimes responsive students, and 84.1% of always responsive students (Otaiba & Fuchs, 2006). The researchers followed their young participants for follow up in their third grade, finding that none of the children who responded initially to classroom instruction later developed reading difficulties (Otaiba & Fuchs, 2006) therefore suggesting that teacher-directed phonological awareness instruction can significantly decrease the number of students at risk for future reading problems.

Another study, Preventing Reading Failure: A Review of Five Effective Programs (Pikulski, 1994), reviews five effective in-school reading intervention programs. The reviewed programs were chosen on the basis that the programs' primary focus was on at-risk grade one students as well as having been described in a journal and that the program has results suggesting the program was successful. Pikulski (1994) elucidated all of the successful elements from the programs he reviewed, advising program creators on which elements should be included in future literacy intervention programs. The following is a summary of Pikulski's recommendations. Individual or small group instruction was deemed highly effective for at-risk learners. However, when resources are limited, special literacy instruction should be spent on first grade intervention. It is pointed out that some children may need intervention in reading prior to first grade (Pikulski, 1994). Simple texts used in programs allows for students to successfully read them. Texts designed to promote application of word identification skills may be beneficial as well as interesting readings that use natural language patterns. Repeated readings (having a student read the same text aloud several times) assists in the development of reading fluency. Phonemic awareness should be included in any intervention program for literacy (Pikulski, 1994) as well as working on word patterns. Children practicing their writing skills allows them to pay attention to the detail in words, which supports their development of

word identification skills. On-going monitoring and assessment as well as a strong connection of communication flowing from program to home are essential components to a successful program (Pikulski, 1994). In general, as a result of his review, Pikulski suggests that if researchers, educators and policy makers include the above suggestions, combining strategies from five effective programs, an even more effective program can be designed for children at-risk for reading failure.

Importance of Family

Involvement of Caregivers

"Caregivers are essential to developing children's meaningful literacy learning since they are the most constant people in their child's life" (Doyle, Hipfner-Boucher & Pelletier, 2008). Various studies have looked at family involvement and found that caregivers are an essential component to their child's success in reading.

The National Center for Summer Learning Loss (NCSLL) highlights only a handful of successful literacy programs however, and indicates also that many summer programs are unsuccessful for a number of reasons (2008). One such reason is the need to couch remedial literacy programs within a family context. "Early introduction to books and participation in literate or literacy-related interactions with parents are seen as most important in preparing children for instruction in reading and writing at school" (Leseman & de Jong, 1998). However, literacy environments provided by caregivers largely differs from home to home and therefore consequently in the preparation and readiness of children for school learning (Leseman & de Jong, 1998). The notion of family literacy is becoming increasingly important as research has begun to elucidate the powerful effect that families can have on children's individual literacy achievement. For example, Timmons (2008) suggests that literacy interventions are most

powerful when they include the family. Higher test scores and grades, more consistent completion of homework, and high self efficacy are all linked with parental involvement (Desimone, 1999). However, Timmons (2008) indicates also that there are a number of challenges facing program designers. Timmons' review of family literacy programs found that in many cases, families were not authentic partners in the intervention process and it is suggested that program designers strive to create a unique, individual needs-based model for each participating family. Second, Timmons (2008) found that many published family literacy programs did not use scientifically based research to inform the development and planning of the program, and that published research in the family literacy field is lacking. Many programs with parent involvement focused on home-based book reading programs through the child's classroom teacher during the school year. Caregivers can play a role in preparing their children for literacy instruction by exposing them to reading, writing and oral language activities (Steele, 2004).

Project Ease is an example of a family literacy project that was done with kindergarten students (Jordan, Snow & Porche, 2000). The yearlong study consisted of 248 kindergarten students, 177 made up the experimental group whose caregivers participated in a program that involved at school child/parent activities, parent education sessions and at-home book mediated exercises (Jordan, Snow & Porche, 2000). The intervention program was designed to support caregivers with theoretical understanding of how to assist their children and with scaffolded interactive strategies to aid their children's emergent literacy development (Jordan, Snow & Porche, 2000). Caregivers spent time learning about literacy within educational sessions which was followed with time in the classroom to work with their child engaging in structured activities allowing them the opportunity to practice the specific interaction. Literacy activities were modeled for the caregivers and scripted exercises were sent home by the teacher every week,

allowing further opportunities for parents to work with their child, covering principles that were the focus for that month. Results found that students whose families participated in the at-school and at-home exercises had greater gains in language scores, measured through story comprehension, vocabulary, and sequencing in story-telling subtests, than the control group (Jordan, Snow & Proche, 2000).

A study by Morrow & Young (1997) bridged school and home literacy contexts by including caregivers in literacy exercises with their children. The goal of the program was to increase first, second and third grade student's achievement as well as their interest in reading. The program took place during the school year and involved children, parents and teachers. Parents were provided with additional techniques to help work with their children at home to encourage skill development and enjoyment. The program was successful in that it revealed differences on literacy scores on the part of the students in the experimental group and the children reported reading more often during free time as well as with their teacher and parents (Morrow & Young, 1997). Researchers found it problematic getting caregivers to attend and participate because of their work schedules and other children not involved in the program (siblings). Thus suggesting, future programs may need to be creative in how to make programs more accessible to all caregivers.

Senechal & Young (2008) looked at a number of studies to see the effect of family literacy interventions on children's acquisition of reading with kindergarten to grade three students and found that results of 16 intervention studies showed that caregiver involvement had a positive impact on student's reading acquisition. An intervention characteristic among studies, found to be the most effective was training caregivers to tutor their children on specific reading skills with specific activities. Thus, parents are most helpful when trained to tutor literacy skills with their

children using specific exercises. All studies reviewed suggested that caregivers of children in kindergarten to grade three can assist their children with learning to read.

As well, children who have caregivers that perceive that their children are interested in learning to read, engaging with print and interacting with books are more likely to feel that they will be competent readers, as oppose to caregivers who perceive that their children are not interested in learning to read and the associated tasks (Baker & Scher, 2002). Caregivers who believe that reading is enjoyable express a more positive perspective, but caregivers also need to be directly involved in reading-related activities with their children.

Children are more likely to improve in their academics if their caregivers are involved in subject-specific activities where a particular subject is targeted, rather than general parent involvement (Sheldon & Epstein 2005). Therefore, parental involvement in a literacy-based program would likely be more effective than parental involvement in a program that included reading, math and science. Sheldon and Epstein (2005) state that joint book reading is one of the most frequently studied parent-child activities that are assumed to advance emergent literacy. In a meta-analysis conducted by Sheldon and Epstein (2005) they found that parental involvement with literacy activities and listening to their child read stories improved children's literacy skills. Specifically, it was discovered that parents tutoring in literacy skills with their child at home was twice as effective in improving literacy skills compared to listening to their child read books (Sheldon & Epstein, 2005). Training parents to work with or tutor their child on specific literacy activities and structured programs requires a fair bit of resources from educators or program developers (Sheldon & Epstein, 2005).

Another study on family literacy conducted by Christian, Morrison and Bryant, examined sources of kindergarten student's reading, vocabulary, letter recognition and mathematics skills

at the beginning of kindergarten (1998). Data was collected on 317 kindergarten children during the 1991-92 academic year. Caregivers completed a background questionnaire providing information on characteristics such as, gender, ethnicity, maternal education and months in child care. Children's IQ and scores on family literacy environment scales were also collected (Christian et al., 1998). Family literacy environments had positive causal links with four out of the five school related measures. Therefore, family literacy environment appeared as a strong predictor of the children's academic skills. The quality of the student's home environment in regards to literacy during the preschool years showed to be a contributing factor in shaping the child's cognitive growth (Christian et. al., 1998). Christian et. al., suggests that small behaviours such as monitoring television time, making library trips can significantly improve the child's growth in academic areas regardless of caregivers' education or financial situations (1998).

Family provides an effective support network for children at risk for reading failure, allowing those closest to the child to assist in their learning. However, it is also important to investigate *when* these children need the support the most, or rather, when support will be most effective for these children.

Summer Gap

Under current academic calendars across North America, summer vacation creates a significant gap in the learning cycle. It has been argued that this gap actually decreases student achievement levels over the course of the summer. In a synthesis of 39 studies, Cooper, Nye, Charlton, Lindsay & Greathouse (1996) indicated that summer learning loss equaled at least one month of instruction as measured by grade level equivalents on standardized test scores whereby children's test scores were at least one month lower when they returned to school in the fall than

scores were when students left for the summer. Although some stakeholders take issue with such findings arguing that the benefits of a summer break outweigh the reversing effect on achievement, it is the impact of the summer learning gap on less advantaged children that is most concerning. Cooper et al., (1996) concluded that children show little or no academic increase over the summer and lose on average between 1 – 3 months of learning and that summer break increases inequality between middle class and lower class children's reading results. Schacter states that summer along with other extended breaks from school seem to be a major factor connected to the growing reading achievement gap (2003). Considering that children lose one month of learning during the summer it is important to implement effective summer programs to offer during the summer months.

Summer Learning Programs

The National Center for Summer Learning Loss (NCSLL) suggests that an effective summer learning program is one that successfully accelerates learning and supports positive youth development as part of a proactive approach to stemming summer learning loss (2008). A successful summer program achieves and maintains high-quality programming through strong leadership, careful planning, extensive summer staff development, strategic partnerships, continual evaluation, and a focus on sustainability. This can be valuable specifically for those vulnerable children.

Schacter & Jo (2005) state that all children who are of lower SES status, not just low performers, experience a loss in reading skills over the summer months. They looked at 162 first grade students who were randomly selected to participate in their study on a reading summer day-camp intervention to improve reading achievement of economically disadvantaged first great students (2005). The seventy-two students assigned to the intervention group participated in a seven week summer reading day camp intervention five days a week. Seventy-two children

were assigned to the intervention, and ninety children were assigned to the control group. Results displayed important differences for children of the intervention group in reading comprehension (Schacter & Jo, 2005).

Summer Learning Loss and Vulnerable Children

Kerry and Davies (1998) point out that one of the problems with the traditional school calendar is this learning loss that occurs over the summer vacation period. The findings of the Cooper et al.'s, (1996) review indicated specifically that the summer learning loss phenomena may be particularly troublesome for less advantaged children including those with special educational needs, children from lower socio-economic backgrounds, and children learning English as a second language. Specifically, it may be in the reading or literacy-based skills that are most affected during the summer break. For instance, Kim (2006) found that on standardized measures of reading, children from middle to high socio-economic backgrounds continually showed gains in reading achievement over the summer whereas disadvantaged children showed significant losses. In a similar study, Katsiyannis (1991) found that without continuous instruction throughout the summer months, many children with learning disabilities fall further behind their grade-level peers. Socially advantaged children continue to learn throughout the summer months, as suggested by sociologists; however children from disadvantaged homes either learn little or start to decline (Burkam et al., 2004). It has been found that students in lower SES schools (with largely minority populations) experienced losses in literacy skills over summer break, while students from schools of more fortunate populations experienced reading gains (Burkam et al., 2004).

If the traditional school calendar has such a strong impact on the learning of average children, then the impact is worse for the less advantaged children (Kerry & Davies, 1998).

Mraz & Rasinski (2007) also report that it is often the children who can least afford to lose the literacy-based skills they have learned during the school year who end up falling the furthest behind during summer vacation. Schacter reports that it is during the summer months that students who are economically disadvantaged tend to experience drops in reading achievement, while students from middle to high income homes progress (2003). Educators and policymakers have been concerned with the achievement gap between high socioeconomic and low-socioeconomic children (Mraz & Rasinski, 2007). In general, research clearly illustrates that the summer learning gap can be particularly problematic for vulnerable children and furthermore, that literacy skills may be the area of achievement that is most affected.

Disadvantaged first-grade students made up the experimental group and participated in a summer reading camp in the *Preventing Summer Reading Declines in Children Who Are Disadvantaged* study by, Schacter (2003). Children in the experimental group also received two hours of systematic reading instruction along with their 8 weeks of summer camp. As well, caregivers received training in effective reading strategies that they could implement with their child at home. There were significant differences in comprehension, vocabulary, phonics skills and oral reading for the children who participated in the summer reading camp program. The results indicated that not only did the experimental group eliminate their summer reading loss, but the intervention assisted in producing significant achievement gains in reading (Schacter, 2003).

Overall, the current state-of-the-art in emergent literacy and at-risk readers indicates that a small subset of children are particularly vulnerable to the summer learning loss phenomenon. As such, it is important to consider effective summer programs aimed at bolstering children's emergent literacy skills. An important element to summer programs is the inclusion of

caregivers as integral components to the program process. Literacy programs that include caregivers have been shown to be significantly more effective than those that do not. A final consideration is whether potential gains achieved by literacy programs can be sustained beyond the short-term period of the program itself. The current thesis aims to address all of these issues.

The Present Study

This thesis study examined the effectiveness of a multifaceted family literacy intervention program designed to enhance emergent literacy skills of junior kindergarten students during the summer months. This thesis poses the following two related research questions:

RQ1: Can a four-week summer family literacy program significantly decrease the gap in the learning cycle often occurring during the summer months?

RQ2: Will the potential gains achieved in the summer family literacy program be sustained over the first semester of children's kindergarten year?

Regarding RQ1 it was hypothesized that with the literacy support during the program sessions as well as from caregivers at home, children's literacy scores would increase from pre- to post-test. Overall, research demonstrates the importance of emergent literacy and the need of support for young vulnerable children over the summer months. The summer family literacy program adopted in this study was aimed at supporting specific emergent literacy skills and by bolstering such skills over the course of four weeks, it was conjectured that achievement gains in emergent literacy would be seen in post-test results obtained immediately after the program. In general, it was thought that a summer family literacy intervention program for junior

kindergarten students experiencing literacy difficulties would be effective in closing the summer learning gap.

Regarding RQ2 it was hypothesized that children's gains achieved through the summer program would be sustained throughout children's kindergarten school year. A primary feature of the summer family literacy program adopted in the study was the inclusion of primary caregivers. The purpose of including caregivers followed Timmons (2008) suggestion that literacy programs are significantly more impactful when caregivers are involved. This suggestion may stem from the common research finding described by O'Connor et. al., (1996) that brief children-only literacy interventions are generally insufficient for sustainable gains for children at-risk for reading difficulties. Following this, it was thought that by including primary caregivers the strategies learned in the program would carry-forward to the home thus allowing the short-term gains achieved by the program to be sustained. Furthermore, it was thought that the primary caregivers would continue the literacy program indefinitely within the home environments. Although this study did not directly measure how parents implemented literacy strategies within the home, the post-test II data would act as a proxy measure for how the program was sustained. In other words, if the results are sustained four months following the initial post-test it can be assumed that the family component may have in part led to the sustainability based on O'Connor's research.

CHAPTER 3

METHODS

Overview

The current study had two objectives. The first was to investigate the efficacy of a four-week summer literacy intervention program. In other words, a purpose was to explore whether such a program would reverse the summer learning loss phenomenon. The secondary objective was to explore the sustainability of the possible achievement gains associated with participating in the summer family literacy program.

Participants

The participants in this study were fourteen (14) children attending junior kindergarten classrooms within a mid-sized school board from Southwestern Ontario, Canada. Each spring as part of the regular curriculum, the participating school board screens all junior kindergarten children on a number of observational measures including reading and literacy. As a result of this screening, a number of children were identified as having literacy-based needs. As a partner in the current study, the school board agreed to refer identified children for participation in the summer literacy program. After the initial school-based referral, children were then assessed by a registered Speech and Language Pathologist specializing in emergent literacy to identify whether the child met specific eligibility requirements (literacy scores below the 25th percentile and low letter identification knowledge) for participation in the study. Once children were deemed eligible, parents were sent an invitation letter. A secondary eligibility requirement was participation of at least one primary caregiver. Fourteen (14) children and at least one of their caregivers were confirmed as participants in the program study. The mean age of children was 55 months and there were seven boys and seven girls. Children with low incidence disabilities

such as autism or intellectual disabilities, and children with significant English as a Second Language difficulties were not included as participants.

Measures

Emergent Literacy Measures

Test of Preschool Early Literacy (TOPEL). A primary objective of the current study was to determine the effectiveness of the summer family literacy program intervention intended to improve children's emergent literacy skills. As such, several measures of children's pre-reading skills served as dependent variables; these skills were assessed with three subtests of the TOPEL (Lonigan, Wagner, Torgesen, & Rashotte, 2007). The TOPEL was selected as a measure of children's emergent literacy because it is comprised of subtests that measure children's abilities in each of these areas, and because it is one of very few instruments that have been designed specifically for screening emergent literacy skills. The TOPEL instrument is designed to identify preschoolers aged 3-5 years who are at risk for literacy problems, therefore, allowing early intervention. The TOPEL has three subtests used in the current study: print knowledge, definitional vocabulary, and phonological awareness.

Print Knowledge. This subtest has 36 items and measures alphabet knowledge and early knowledge about written language conventions and form. The child is asked to identify letters and written words, point to specific letters, name specific letters, identify letters associated with specific sounds, and say the sounds associated with specific letters.

Phonological Awareness. This subtest has 27 items and measures word elision and blending abilities. The child is asked to say a word, and then say what is left after dropping out

specific sounds (elision) for the first 12 items. The child is asked to listen to separate sounds and combine them to form a word (blending) for the remaining 15 items.

Letter Names. This subtest is a measure of alphabet knowledge, a component of written language awareness. In this subtest children were shown all twenty-six upper-case letters of the English alphabet in random order and asked to give the letter name. Responses were scored as correct if they corresponded with the appropriate letter name.

Letter Sounds. This subtest is a measure of letter sounds. In this subtest children were shown all twenty-six upper case letters of the English alphabet in random order and asked what sound each letter made. Responses were scored as correct if the sound they made corresponded with the appropriate letter.

Procedures

Design

A repeated measures within-group pre-test and posttest design exploring a summer family literacy intervention program served as the framework for this study. After meeting the eligibility requirements, eligible children and their caregivers were invited to participate in the study. The emergent literacy measures described above acted as both the pre- and post-test measures. Following pre-test assessment participating children and their caregivers attended a four-week family literacy intervention program during the months of July and August, 2009. Children participated with their caregiver(s) for two hours, twice a week over the course of four weeks. Caregivers and their children worked together and separately each session with literacy consultants and teachers. After completing the four-week intervention program, children were assessed by Speech Language Pathologists during the final session, providing the post-test data. Children were assessed again within a two-week period in November/December 2009. This

second post-test assessment point was used to measure the sustainability of the potential gains achieved in the program. Children were assessed at this point by the same two Speech and Language Pathologists who conducted the first set of assessments.

Intervention

The current study aimed to adopt and implement an empirically based summer family literacy program. A well-designed summer literacy program offers an opportunity to focus on reading within an intensive, interactive setting, where a child's specific needs can be supported and the best available teaching strategies can be implemented. As suggested by Timmons (2008) successful summer learning programs must be flexible enough to respond to the individual needs of the participating families and children. However, within the existing literature very few programs effectively addressed contextual factors such as family involvement and culture. Therefore, a foundational pillar to the proposed research project is including primary caregivers as authentic partners in a summer literacy program designed to support their children's literacy needs. This pillar led the research team to adopt the Learning Begins at Home (LBH): A Research-Based Family Literacy Program Curriculum (Doyle, Hipfner-Boucher, & Pelletier, 2008) as it built upon similar foundations but also because it is designed to be flexibly adapted to suit the needs of each individual participating family. As indicated by Timmons (2008), literacy interventions are most powerful when they include authentic family involvement. Based on this research a requirement for participating in the summer literacy program is involvement of a child and one of their primary caregivers. The participating caregivers were integrally involved in the program; participating in workshop activities prior to and following hands-on literacy work with their child. By including primary caregivers as authentic partners, the research team hoped to

encourage a paradigmatic shift in the family whereby literacy activities become routine within their household.

The LBH program consisted of 1 introductory session, 8 two-hour instructional sessions (described in Table 1), and 1 post-program session where posttest data was collected and families were debriefed on the program. In general, each two-hour instructional section was sub-divided into three components – the first component (30 minutes) has children and caregivers working together with one teacher reviewing the objectives of the evening's lesson collectively reading a story that was themed around the lesson's objectives. Component two (45 minutes) had children and parents working separately. Children worked in small groups of 3 or 4 with a teacher supervising each group. Children worked on the skills related to each session (i.e. letter identification) but more so on the skills in which they required support. Parents worked in a separate room and participated in a workshop led by a registered Speech and Language Pathologist specializing in emergent literacy. The workshop was based on providing parents with a rational for what to focus on, activities and strategies, that they could use at home to support the individual literacy-based needs of their child. Component three (30 minutes) had children and parents coming back together to practice and implement the strategies and tactics that parents had learned in their emergent literacy workshop. The third component ended with a story read to the entire group. Children and caregivers were provided with complimentary books and materials (i.e. markers, magnet letters, etc.) to support them in implementing at home the literacy strategies and tactics that they learned in the program. The program and materials were complimentary for all participants and each evening families were provided with supper.

Learning Begins at Home

Program Session Description

The following is a detailed outline of each session that was run during the duration of the summer family literacy program.

Session 1 – July 7th, 2009 INTRODUCTION AND DIALOGIC READING

Component One. Whole group participated in singing the Welcome song and listened to the read aloud of Brown Bear, Brown Bear, which demonstrated a 'Book Crawl' to the caregivers. This Book Crawl specifically focused on picture/text support, information on the book cover and making predictions of what the story would be about, talking about predictions, walk thru story quickly looking at pictures, making connections and setting a reason for reading.

Component Two - Children. The children rotated through three activities; hat making, letter bingo, and ABC mat. At the hat making station, children were provided with pictures of initial target letters (often the first letter of their name) to decorate a hat with and pictures of things that start with their target letter. At the letter bingo station each child played with a bingo card made with their target letters. Finally, at the ABC mat station the children tossed a bean bag onto an alphabet floor mat, aiming for their target letters. Following the station rotation the children sang *The Colour I See* song and participated in a book walk with the story, *Caps for Sale.*

Component Two - Caregivers. Caregivers were welcomed to the family literacy program by the facilitator. During this session, caregivers listened to a general outline of what the next 4 weeks of the program looked like and what the goals of the program were. Handouts were provided. The facilitator discussed what Early Reading Skills are and had a group discussion on what books the caregiver's children enjoyed. Books were laid out on the tables and caregivers

were asked to discuss the following: which category (picture book, poetry, alphabet book, concept book, etc.) each book fell into? Are there any books that do not seem appropriate? What books do your children like best? When you go to the library or to a book store, how do you choose books for your children? The facilitator then went through each book category and provided the caregivers with a description of each type of book. The facilitator then discussed what to think about when choosing books for young children (i.e. interest in topic, length of book, illustrations, language, etc.). To lead into dialogic reading, the facilitator asked, what is it your child likes best when you read to them? Do you remember what you liked best when being read to? The facilitator explained dialogic reading and caregivers went home with a book mark highlighting how to do a book crawl.

Component Three. Caregivers and children came back together and the children's activities were described to the caregivers. Together, the group recited Humpty Dumpty and sang 'If you are wearing something Blue'. Child-facilitator read *Wide Mouthed Frog* further demonstrating a 'Book Crawl'. The session concluded with a take home activity book and singing of the 'Goodbye' song.

Session 2 – July 9th, 2009 THINKING ABOUT WORDS AND SOUNDS

Component One. The whole group sang the welcome song and had a quick review of the take home activity books from the previous session. The group participated in reciting the nursery rhyme *Jack and Jill* and the child-facilitator did a book crawl with the story *Silly Sally* and also counted the words in the sentences.

Component Two – Children. The children rotated through three activity stations. At station one, children participated in the game *Tippin' Toadstool*, which was a

segmenting/blending game. At stations three, children played the *Flyswatter* compound word (blending) game and at station three the children played *What's the Rhyme Sorting House* game.

Component Two – Caregivers. The facilitator opened with providing a handout from last session summarizing the Types of Books and reviewed a book crawl with *Wide Mouth Frog.* The facilitator put up a sentence from Brown Bear, Brown bear in Ukrainian, to demonstrate what kids see prior to learning how to read. During this session, the facilitator talked about the importance of listening to words and sounds, rhyming, segmenting, syllables, blending, and recognition and sorting of initial letters. It was demonstrated to caregivers how repetitive text helps develop word sense with the *Silly Sally* book.

Component Three. Willoughby Wallaby Woo (dinosaur). Caregivers and children together, played I Spy (something that starts with /b/) and Animal Lotto Game. Session concluded with Silly Sally take home activity and the Goodbye Song.

Session 3 – July 14th, 2009 LETTER NAMES AND SOUNDS

Component One. The whole group sang the welcome song, learned a song ("If your name starts with [letter]"), reviewed rhymes from *Silly Sally*, recited the nursery rhyme *Star Light, Star Bright* and listened to the story *Alphabet Under Construction.*

Component Two – Children. The children rotated through the following three stations; Pop-up Pirate Game (working with letters), Fishing for Letters Game (floor activity) and Play dough with Alphabet cooking cutters.

Component Two – Caregivers. The facilitator explained the importance of learning letter names and sounds (and the difference between name and sound of letter) and the whole group discussed different materials to help assist their child in learning the letter names and sounds (i.e.

magnetic letters, sidewalk chalk). The facilitator also demonstrated a Bingo and concentration game that they could play with their child to help them learn letter names and sounds.

Component Three. The caregivers and children together participated in saying the nursery rhyme *Star Light Star Bright*; singing the ABC song, and listened to the story *Chicka Chicka Boom Boom* (children put the letters on the tree while the story was being read). Children were then divided into two groups, group one started working on a letter hunt with their caregivers out in the hallway, while group two played concentration with their caregiver in the classroom, then the groups switched activities. The session concluded with the Goodbye song.

Session 4 – July 16th, 2009 TALK TO YOUR CHILD

Component One. The whole group sang the welcome song and was introduced to the topic. The facilitator did a shared reading and changing of names (i.e. I see John (then chant letters in name J-o-h-n). Group reviewed the nursery rhyme Star Light Star Bright, recited Diddle, Diddle, Dumpling with actions, listened to the book *Is your Mama a Llama?* and played a rhyming game (mat, cat, bat…hat or socks?).

Component Two – Children. The children rotated through the following three activities; Hungry Creature Guessing Game (puppet will only eat things that start with target letters for kids. Each child received their own bang of letter and word/picture cards that start with their target letter). Flap Books (focusing on target letters and words that start with their target letter). Animal Card Game (what is the first letter, last letter, cheer the letters (clap, snap, pompoms, tap, etc.) on the card and clap the syllables).

Component Two – Caregivers. The facilitator discussed children's oral language development and the link to literacy, and provided suggestions to develop oral language.

Caregivers were given the opportunity to discuss and give suggestions on how they can facilitate language development (i.e. use full sentences, asking questions, eye contact, etc.).

Component Three. As a group they recited "Diddle, Diddle, Dumpling" and then split off into three groups. Each group worked with a facilitator to plan a trip to the grocery store, demonstrating a Think Aloud activity to the caregivers. Each child was given food items (picture and words) that start with their target letter, the facilitator made a grocery list of these items, and when they were added to the list, each child put up the picture item in the fridge. The session concluded with the Goodbye song.

Session 5 – July 21st, 2009 ENVIRONMENTAL PRINT

Component One. The whole group sang the welcome song and the topic was introduced while showing environmental print signs. Children participated in a cheer for STOP. Children were given the letters S.T.O.P and were lead in a cheer for each letter. The letters were put on the blackboard and then the children discussed what the letters spell. The facilitator then held up a Stop sign. The children then participated in another cheer. 'Letter A, Letter A who do you see? (hold up large letter) I see Alex, Abbey, and Angelica looking at me.' The facilitator then went through the beginning letter of all the children's names. The facilitator led group in reciting the nursery rhyme *Jack be Nimble Jack be Quick* and went through the story *City Signs.* While the facilitator went through the picture book, the children held on to an assigned letter and page number corresponding with the book. As the signs came up in the book, the children were asked what letter it began with and the child with the letter identified or matched the letter they had to the sign (i.e. What does STOP start with? Who has the letter S?).

Component Two – Children. The children rotated through the following three stations. The Seal Game (letter identification), road map puzzle (floor activity) where the children drove a little truck with letters to the destination on the map, and Flap book (letters and signs).

Component Two – Caregivers. The facilitator reviewed what environmental print is with the caregivers, provided examples (food packaging, signs, etc.) and discussed the importance of environmental print. The caregivers were given time to discuss in groups what types of environmental print their children notice, and strategize ways to encourage children to notice environmental print.

Component Three. The facilitator led a brief discussion on the importance of caregivers being involved in their child's learning, and led the group in reciting *Jack be Nimble Jack be Quick.* Children were then divided into two groups. Group one played the concentration game with signs and group two identified letters and environmental print signs in the hallway with pointers. The groups switched after 5 minutes. To conclude the session, the group sang the Goodbye song.

Session 6 – July 23rd, 2009 READ WITH YOUR CHILD

Component One. The whole group sang the welcome song and the topic was introduced. The facilitator led the children through the same 'name' cheer from the previous session and the group recited the nursery rhyme *5 Fat Peas* with actions and listened to the story *Growing Vegetable Soup.* During this reading the facilitator demonstrated dialogical reading (i.e. "What is your favourite soup?"), modeled and discussed concepts about print and discussed labeling words. A book activity followed where the children were encouraged to clap out the syllables of vegetable names.

Component Two – Children. The children rotated through the following three stations, Bingo Dabber Letters (each child received at least one of their target letters (enlarged) to stamp with bingo dabbers as well as pictures of items that start with their target letters were at the bottom of each page. Fruit/vegetable/letter/sound bingo was another station, where the children were given a personalized bingo card with their target letters and fruits/vegetables that start with their target letters. Fruits and Vegetable Alphabet Mat Sort was the floor activity where children were given a bag of fruit/vegetable labeled cards with their target letters. The "I spy" game was played to sort the cards with the children. For example, "I spy a fruit that makes the /b/ sound and starts with the letter 'b'", answer-banana. The facilitator claped the syllables of the word with the child and helped the child place the card on the alphabet mat.

Component Two – Caregivers. The key message in this session is, 'Why reading aloud is so important'. The facilitator discussed the following with the group: book handling skills, positive attitude, vocabulary development, developing a sense of story (narrative), allowing children to make predictions. There was a small group discussion between caregivers about book reading routines. Specifically, was there anything caregivers have seen in the program that is different from what they do at home, etc? Caregivers were provided with a handout regarding dialogic reading and the facilitator discussed effective reading practices. The facilitator walked the caregivers through a book and discussed what dialogic reading might look like – what they could say to move conversation forward. Caregivers were encouraged to pick a dialogic reading strategy to try at home while reading to their child.

Component Three. The facilitator led the group through a repeat of the nursery rhyme *5 Fat Peas* and the children then split into two groups. Each group participated in two activities, reading a procedural text and following directions to plant a bean seed and Go Fish with target

letters and picture cards that start with target letters. To conclude caregivers, children and facilitators regrouped at the carpet where a reinforcement of skills learned was provided along with singing the Goodbye Song.

Session 7 – July 28th, 2009 STORYTELLING

Component One. The whole group sang the welcome song and the topic was introduced. The facilitator played the Name Game going through each child's name (Chickity, chackity choo, a chick flew over you (Chickity, chackity chee, a chick flew over me. Chickity chackity Ch-Name, a chick flew over NAME) and led the group in reciting the nursery rhyme *The Elephant* with actions. The book read to the group was *Little Red Riding Hood* where again, the facilitator modeled dialogical reading, concepts about print and used pictures to tell the story while including the children in the storytelling. Following the storytelling, the facilitator modeled a book activity that allows children to draw their favourite part of the story, label items in their picture, and write a simple sentence using bubblegum writing (stretching words out, especially focusing on the initial sounds of words).

Component Two – Children. The children rotated through the following three stations; Fly Swatter Game (reinforcing target letters and sounds) where the children fed the letters to the wolf (Little Red Riding Hood connection). Making target letters with round stickers to reinforce sounds with pictures at the bottom of the page and children drawing and orally telling what their favourite part of Little Red Riding Hood was.

Component Two – Caregivers. The facilitator led a discussion around how caregivers could use prompts to encourage discussion with their child about everyday activities or special

events. Caregivers shared their experiences from practicing the use of a dialogic reading strategy while reading with their child since the previous session.

Component Three. The facilitator led the group in a repeat of the nursery rhyme *The Elephant* and the children participated in two activities with their caregivers. The first activity was creating puppets for Little Red Riding Hood and an oral retell of the story. In the second activity, the children used their pictures of the story to write what their favourite part of the story was using bubblegum writing (which was modeled in the first component). The children did these two activities with their caregiver. To conclude, everyone regrouped at the carpet where skills were reinforced and the Goodbye song was sang.

Session 8 – July 30th, 2009 PRINT AWARNESS/WRITING

Component One. The whole group sang the welcome song and the topic was introduced. The facilitator led the children in the song, *Going to the Zoo* (song includes adding in children's names and reinforces letter sounds) and the nursery rhyme *Little Boy Blue.* The children participated in an activity with the facilitator working with words that rhyme with zoo (the children were given a letter to substitute 'z' in zoo to make a word that rhymes. They were then asked if it was a real word or a silly word. The children then listened to the story *Dear Zoo*.

Component Two – Children. The children rotated through the following activities; Tumbling Monkeys and Zoo Animals which reinforced segmenting/blending and blending skills. Deliver Letters reinforcing letter identification skills by having the children find pre-cut letters of their name, put the letters in an envelope and deliver them to the mail box. Zoo Book: children glue animals in the book and write the animal name.

Component Two – Caregivers. The caregivers shared a book they selected at the library and discuss why it was a good choice for teaching children about the sounds of language. The facilitator led a small group and large group brainstorming activity about the development of writing (continuous scribble, discrete scribble, random letters, etc.) The facilitator spoke about the importance of children being taught how to write and how to help children develop the necessary muscles for writing and suggested activities.

Component Three. The facilitator discussed the importance of caregivers being involved in their child's learning and led the group in a repeat of the nursery rhyme *Little Boy Blue.* Children are divided into two groups and participated in the following activities: Zoo picture, where the children glued pictures of 3 zoo animals on a page and wrote a letter to their Mom/Dad about going to the zoo. In the hallway, children played a game similar to "What Time is it Mr. Wolf? (What Letter is it Mr. Lion?) and identified letters the lion held up. Letters will spell a word. Each activity took 10 minutes, and then the groups switched to the next activity. To conclude, the group sang the Goodbye Song.

CHAPTER FOUR

RESULTS

This chapter reports the results of the various analyses used to address the research questions of interest in this study. This study's sample consisted of 14 four-year-old junior kindergarten students, seven boys and seven girls. To measure the effect of the summer family literacy program, three sets of assessments were conducted. For the purpose of this thesis, each assessment point included three measures; TOPEL Print Knowledge, TOPEL Phonological Awareness, Letter Identification and Letter Sound Understanding. The first set of pre-test assessments (Pre-Program) was completed in June prior program commencing. The first set of post-test assessments (Post-Program) was completed on the last evening of the program and the final set of post-test assessments (December Post-Program) was completed over a two-week period in November – December in the school year following the program. Means and standard deviations for all assessment scores are illustrated in Table 1.

Table 1.

Pre-, Post- and December Post-Program Assessment Means and Standard Deviations (N = 14).

Measure	Pre-Program		Post-Program		December Post-Program	
	Mean	**Standard Deviation**	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**
Print Awareness	9.5	6.2	16.7	7.7	21.1	8.2
Phonological Awareness	12.4	5.8	17.4	5.8	20.5	4.8
Letter Names	6.4	4.5	12.2	7.0	15.6	8.1
Letter Sounds	2.9	3.6	6.1	4.3	8.6	6.4

The overall goal of the thesis was to explore the immediate and long-term (6 months) effects of the summer family literacy program. A first step in this process was to measure the overall effect of the program across all three assessment points. To do this, a repeated-measures analysis of variance was computed for all measures of emergent literacy. For the TOPEL measure of Print Awareness the difference between pre- and post-program scores were statistically significant, $F(2, 12) = 11.08$, $p < .005$, $\eta_p^2 = .65$, indicating that children experienced a moderately large statistically significant gain in their phonological awareness (Cohen, 1988). For TOPEL Phonological Awareness, a statistical effect was found, $F(2, 12) = 14.13$, $p < .001$ $\eta_p^2 = .70$, indicating that children experienced a moderately large statistically significant gain in their print awareness skills (Cohen, 1988). A similar result was found for both measures of letter understanding. A statistically significant increase was found for Letter Identification (letter

names), $F(2, 12) = 25.82$, $p < .001$, $\eta_p^2 = .81$ and for Letter Sound Knowledge, $F(2, 12) = 14.91$, $p < .001$ $\eta_p^2 = .71$. These findings indicate that children's letter understanding significantly increased over the course of the entire study. All of the effect sizes computed for the above analyses were considered moderately large according to Cohen (1988). To illustrate the overall effects, Figures 1 through 4 indicate the overall gains for all four measures used in the study.

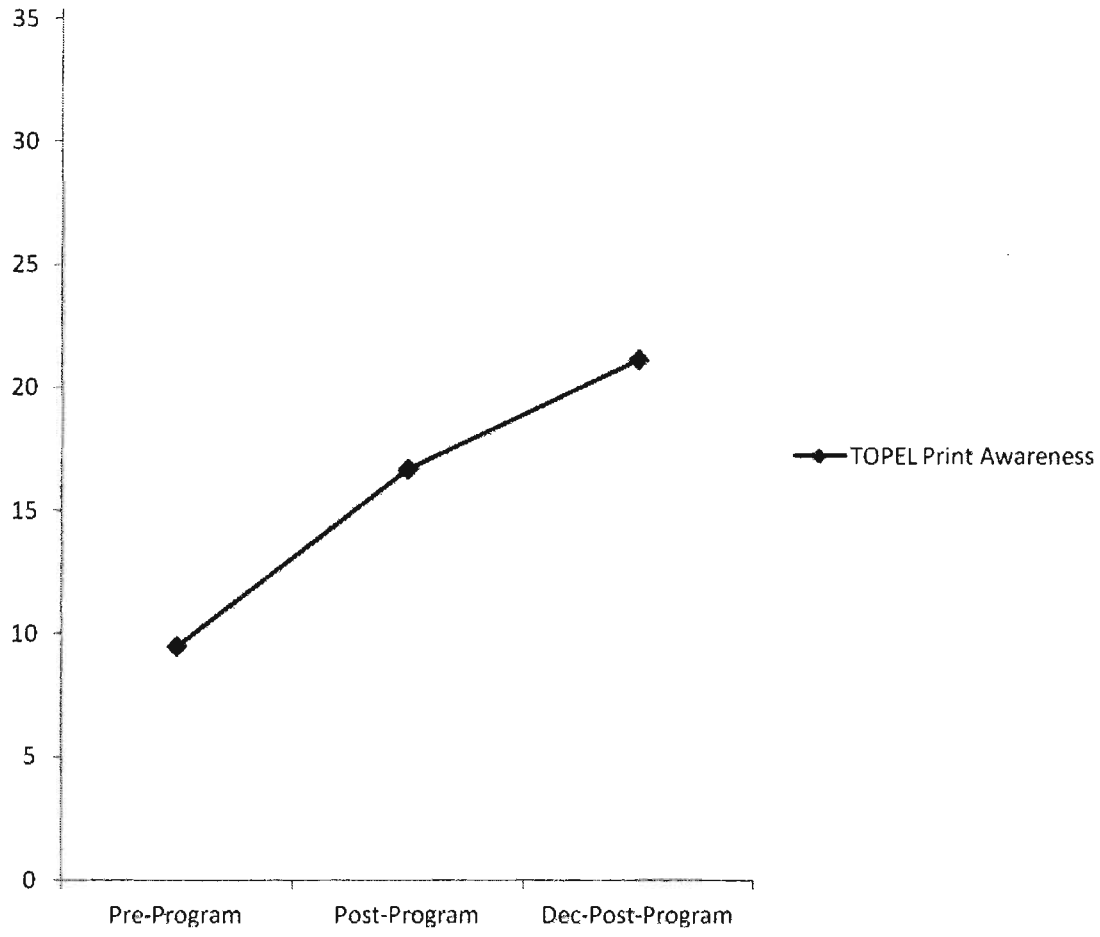

Figure 1. Achievement gains across all assessment points for TOPEL Print Awareness

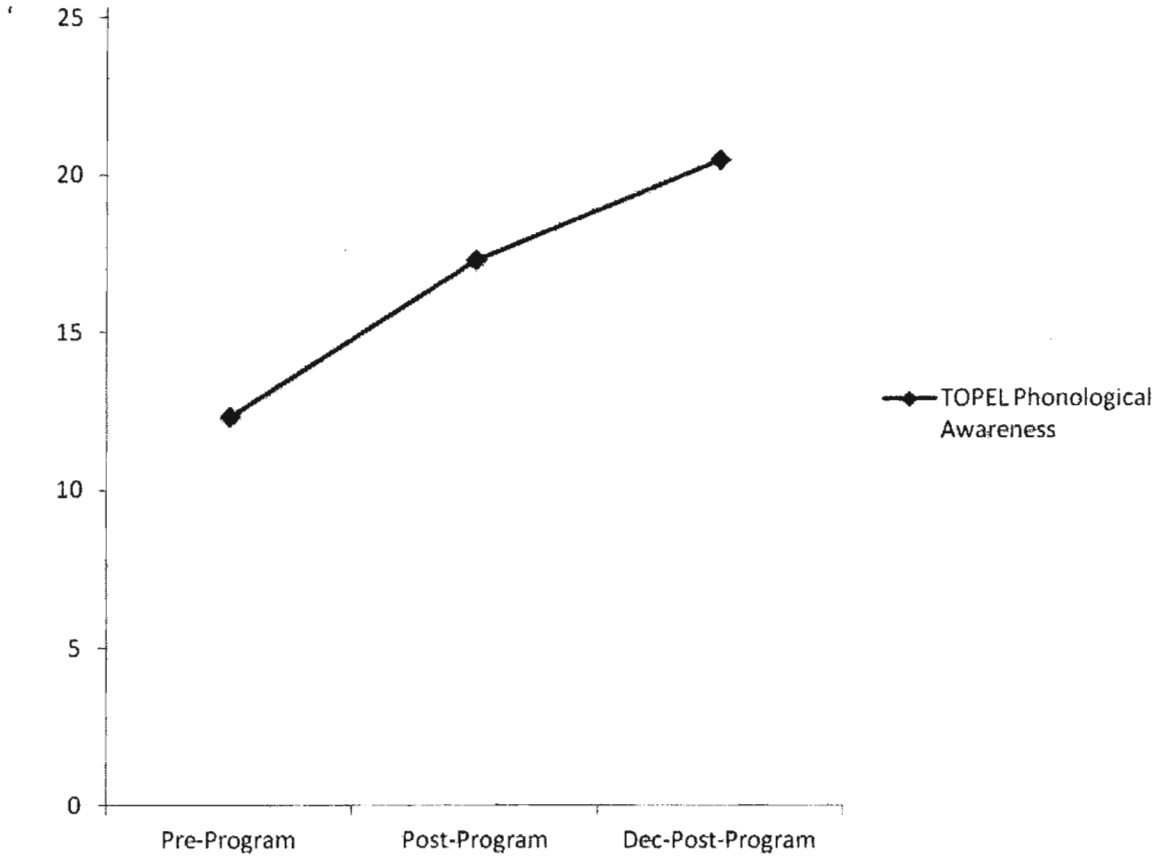

Figure 2. Achievement gains across all assessment points for TOPEL Phonological Awareness

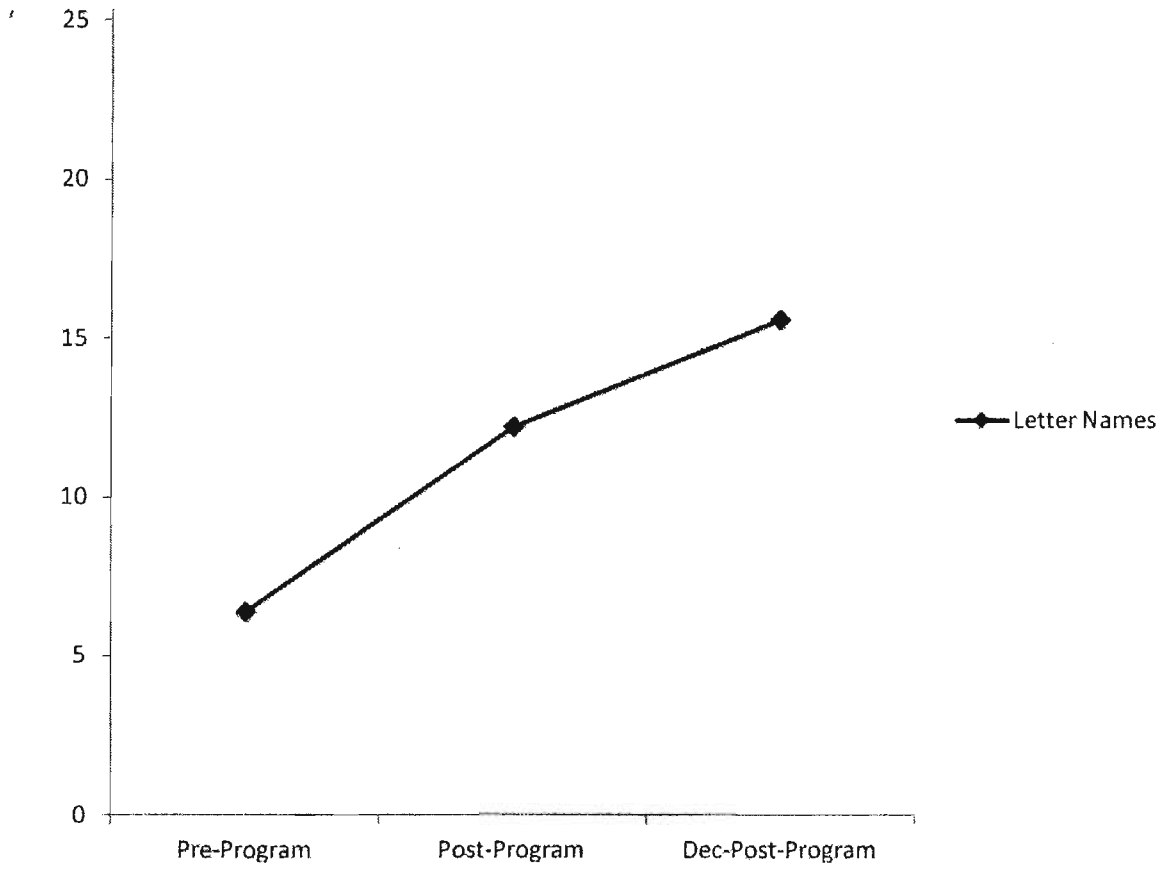

Figure 3. Achievement gains across all assessment points for Letter Identification

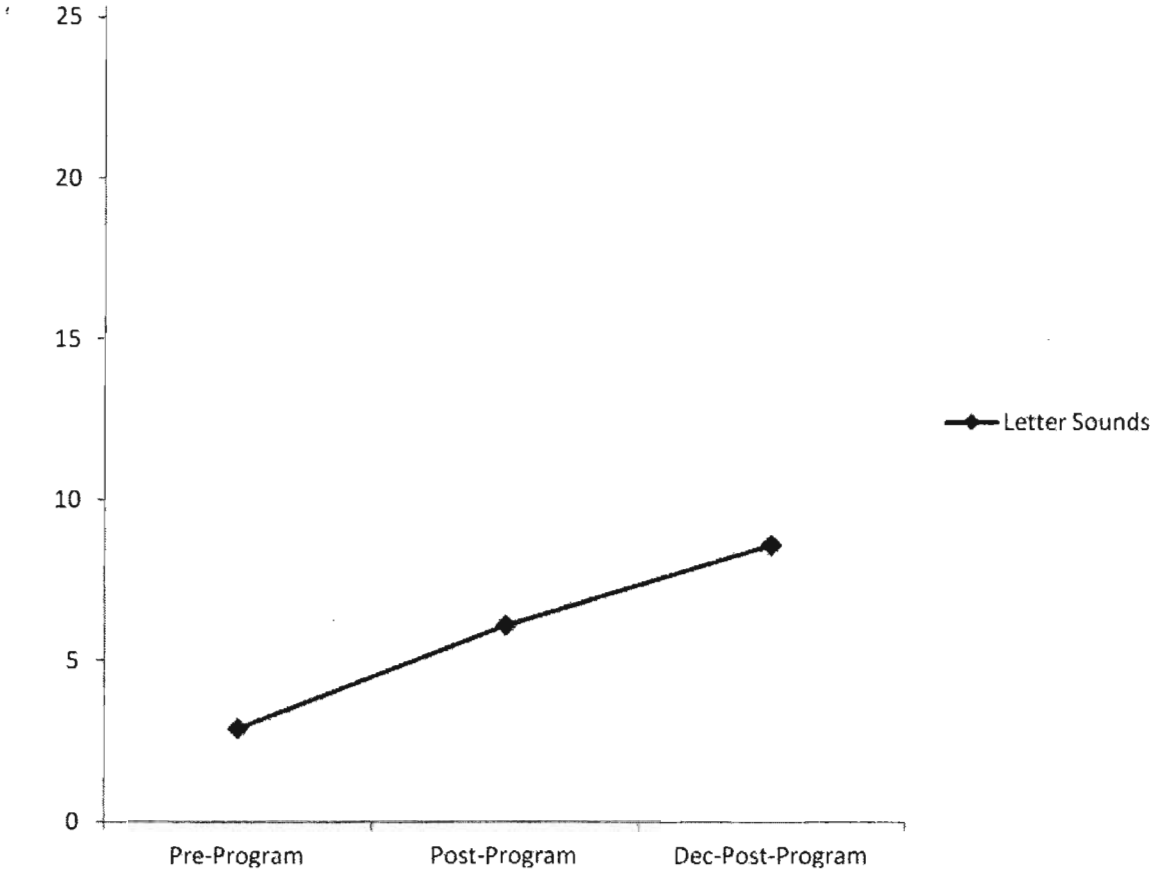

Figure 4. Achievement gains across all assessment points for Letter Sound Understanding.

Following the statistically significant results of the general model, univariate post-hoc analyses were warranted and computed to measure the specific effects between each of the assessment points. Such analyses are computed and discussed in the following sections.

Research Question 1

Can a five week Family Summer Literacy Program significantly decrease the gap in the learning cycle in the summer months? To answer this question a within-group analysis was computed to measure the immediate effect of the summer family literacy program. Specifically, paired sample t-tests were computed to measure the effect that the summer program had on the set of dependent variables. Results of this analysis indicate that there was a statistical significant difference between pre- and post-program scores on the TOPEL Print Awareness Measure, $t(14) = -3.16$, $p < .01$. Likewise, a statistical significant difference between pre- and post-program scores on the TOPEL Phonological Awareness measure, $t(14) = -4.35$, $p < .001$. A statistical significant difference between pre- and post-program scores on the Letter Names measures, $t(14) = -6.03$, $p < .001$. A statistical significant difference between pre- and post-program scores on the Letter Sounds measure, $t(14) = -2.43$, $p < .05$.

Clinical Gains

Although the above analyses reveal statistically significant increases for all measures, these analyses do not indicate whether the increases were clinically significant. In other words, it was important to ask whether the significant increases in scores for children reflect an increase whereby posttest scores were within achievement levels commensurate with typically-achieving 4-year old children. To answer this question pre-and post-program mean scores for each TOPEL measure were compared against percentile rank scores as indicated by the TOPEL technical data.

At the pre-program assessment point, participating children had a TOPEL Print Awareness mean score of 9.5, which converted to a percentile rank score of 19. The corresponding post-program-mean score was 16.7 converting to a percentile rank score of 45. These results indicated that for print awareness, in addition to a statistically significant gain, children demonstrated a clinically significant gain whereby their post-program scores were within the average range for typically developing 4.5 year-old children. A similar trend emerged for TOPEL Phonological Awareness. At the pre-program assessment point, children had a Phonological Awareness mean score of 12.4, which converted to a percentile rank of 19. The corresponding post-program mean score was 17.3 converting to a percentile rank score of 58. These results indicated that for phonological awareness, in addition to a statistically significant gain, children demonstrated a clinically significant gain whereby their post-program scores what could be considered within the average range for typically developing 4.5 year-old children. Pre- and post-program clinical gains are illustrated in Table 2.

Table 2

Pre- and Post-Program Means and Percentile Rank Scores for all Measures

	Pre-Program		Post-Program	
Measure	**Mean**	**Percentile**	**Mean**	**Percentile**
Print Awareness	9.5	19	16.7	45
Phonological Awareness	12.4	19	17.3	58

Clinically significant analyses were difficult to conduct for letter identification and letter-sound knowledge. There is some debate and essentially no established normed benchmarks for kindergarten letter understanding. However, it is important to note that in this sample, the largest statistical gain was associated with letter identification. Letter identification mean scores increased from 6.4 to 12.2 letters. This gain translated to children on average, knowing about half of the letters in the English alphabet. This trend was not apparent for letter-sound understanding, but this skill is developmentally more complicated for children just completing their junior kindergarten year.

Research Question 2

In a two-week period in November and December of the school year following the program (children's kindergarten year), the 14 participants were assessed on the same four dependent variables (TOPEL Print Awareness, TOPEL Phonological Awareness, Letter Name and Letter Sound). Assessment means and standard deviations were illustrated previously in Table 1. The second research question asked "Were the post-program literacy scores sustainable after children had completed the program and started their kindergarten year?" Statistically significant increases were observed in the analyses of the overall model (Figures 1 through 4). However, it was important also to measure the specific increases or decreases that participants experienced from the end of the program (Post-Program Assessment) to the 4-month follow-up assessment point (December Post-Program Assessment). To answer this question a within-group repeated measures analysis was computed for each dependent variable. These analyses enabled an empirical examination of the overall change in each measure from pre-program to immediately post-program to the 4-month post-program assessment point.

Using a paired-sample t-test analysis, a statistically significant difference between post-program and December post-program scores on TOPEL Print Awareness, $t(14) = -2.84$, $p < .01$. Likewise, a statistical significant difference between post-program and December post-program scores on the TOPEL Phonological Awareness measure, $t(14) = -3.14$, $p < .008$. A statistical significant difference between post-program and December post-program scores on the Letter Names measures, $t(14) = -5.01$, $p < .000$. A statistical significant difference between post-program and December post-program scores on the Letter Sounds measure, $t(14) = -3.48$, $p < .004$.

Clinical Gains

Similar to the pre- and post program assessments, the statistical analyses computed above do not indicate whether the increases between post-program and December post program assessments were clinically significant. As such, it was important here also to ask whether the significant increases in scores for children reflect an increase whereby December post-program scores were within achievement levels commensurate with typically-achieving 4-year old children. To answer this question the post-program and the December post-program mean scores for each TOPEL measure were compared against percentile rank scores as indicated by the TOPEL technical data. However, it was important to note also that at the December post-program assessment point, children were approximately 5-6 months older than they were when completing the program. To accommodate this increase in age, children's TOPEL raw scores were compared to the normative technical data corresponding to the current December age of the participants. At the first post-program assessment point, participating children had a TOPEL Print Awareness mean score of 16.7, converting to a percentile rank score of 45. The corresponding December post-program-mean score was 21.1 converting to a percentile rank score of 45. These results indicated that for print awareness, in addition to a statistically significant gain, children demonstrated a stabilizing of their percentile rank score. In other words, the print awareness gains achieved in the program had been sustained over 4 months relative to typically developing 4.5 to 5 year-old children. A similar trend emerged for TOPEL Phonological Awareness. At the first post-program assessment point, children had a Phonological Awareness mean score of 17.3, converting to a percentile rank of 53. The corresponding December post-program mean score was 20.5 converting to a percentile rank

score of 61. These results indicated that for phonological awareness, in addition to a statistically significant gain, children demonstrated a clinically significant gain whereby their post-program scores what could be considered within the average range for typically developing 4.5 year-old children. Post-program and December post-program clinical gains are illustrated in Table 3.

Table 3.

Post-Program and December Post-Program Means and Percentile Rank Scores for all Measures

	Pre-Program		Post-Program		Dec-Post-Program	
Measure	**Mean**	**Percentile**	**Mean**	**Percentile**	**Mean**	**Percentile**
Print Awareness	9.5	19.0	16.7	45.0	21.1	45.0
Phonological Awareness	12.4	19.0	17.3	53.0	20.50	61.0

Similarly to the first clinical gains analysis, it was not possible to calculate clinical gains for the two measures of letter understanding. However, it is important to note that between the post-program and December post-program assessment points, letter identification mean scores increased from 12.21 to 15.64 and likewise for letter sound, children demonstrated an increase from 6.14 letter sounds at the post-program assessment point to 8.64 at the December post-program assessment point.

CHAPTER 5

DISCUSSION

The results of this study were encouraging. Before commencing the summer family literacy program all participating children were identified as at-risk readers by their classroom teacher and the initial screening assessment. Specifically, children had emergent literacy skills that were well below average whereby at the pre-program assessment point, participants' mean scores were statistically significantly low in print awareness ($M = 9.5$), phonological awareness ($M = 12.4$), letter identification ($M = 6.36$), and letter sound understanding ($M = 2.9$). An important consideration here was the timing of these assessments. The initial pre-test assessments were completed at the end of May – one month prior to students beginning their summer vacation. Cooper et al., (1996) suggested that such children would be considered as vulnerable to the summer learning gap. That is, it could be expected that the 14 children participating in this study would experience a significant decrease in their literacy scores as a result of the 2 month summer learning gap created by schools summer vacation. The current study aimed to stop this decrease and support these children throughout the summer. As a result of children's May screening assessments, the 14 children and their caregivers participated in the study's summer family literacy program. The aim of the program was twofold. First, the 4-week program was designed to significantly decrease the gap in the learning cycle that often occurs during the summer months. A second aim was to include caregivers as an integral component of the program. This aim followed Timmons (2008) suggestion that literacy programs have a greater impact when they include family members as primary stakeholders. It was hypothesized that by including caregivers in the program, the gains achieved by the program

itself would be sustained, as caregivers would likely continue the literacy strategies learned in the program within their own home environments.

As a result of the program, all children scored statistically significantly higher on their literacy scores at the post-program assessment point immediately following the program. Specifically, participating children significantly increased their post-program mean scores in print awareness ($M = 16.7$), phonological awareness ($M = 17.3$), letter identification ($M = 12.2$), and letter sound understanding ($M = 6.1$). Furthermore, it was important to note the clinically significant gains associated with children's participation in the program. Specifically, all participating children had pre-program percentile rank scores on the TOPEL measures that fell below the 25%ile – a common benchmark for risk. At the post-program assessment point, all children had percentile rank scores on the TOPEL measures that fell within normal limits relative to age-matched peers. These results in general indicated that the summer family literacy program made an immediate impact on the emergent literacy skills of participating children. All participating children demonstrated significant increases in print and phonological awareness as well as their letter sound understanding.

A second aim of this study was to measure the sustainability of the gains achieved as a result of the program. For all measures, a statistically significant gain was achieved between the end of the program (Post-program assessment) and the December post-program assessment point. Furthermore, when exploring percentile ranks, children either sustained or gained in their age-matched achievement. This result suggests that the achievement experienced as a result of the program had been sustained. However, an important question arising from this result centres around why children were able to sustain this achievement. This is a particularly important question in light of previous research indicating that brief literacy interventions are generally

insufficient for sustainable gains for children at-risk for reading difficulties (O'Connor et al., 1996). Although this study did not include a direct measure of why the gains were sustained, it was hypothesized that the gains may be attributed to the inclusion of caregivers within the summer literacy program. As indicated previously, primary caregivers were an integral component of their child's participation in the program. Each evening caregivers were presented with a workshop where the aim was to explicitly strategize with caregivers about how to most effectively support their children in their literacy activities at home. The purpose of including caregivers followed Timmons (2008) suggestion that literacy programs are significantly more impactful with caregivers are involved. This suggestion may stem from the common research finding described by O'Connor et al (1996) that brief children-only literacy interventions are generally insufficient for sustainable gains for children at-risk for reading difficulties. Following this, it was hypothesized that by including primary caregivers the strategies learned in the program would carry-forward to the home thus allowing the short-term gains achieved by the program to be sustained. It was conjectured that the primary caregivers would continue the literacy program indefinitely within the home environments. Although this study did not directly measure how parents implemented literacy strategies within the home, the December post-program data may act as a proxy measure for why the program achievement gains were sustained.

The results support this hypothesis. Not only did children sustain the gains achieved in the program, but children in fact continued to increase in their literacy skills relative to age-matched normative data. This result was evidenced by the increase for TOPEL measures in the percentile rank scores from post-program assessments to December post-program assessments. This increase invites the notion that after the completion of the summer literacy program,

caregivers continued to work with their children to support their literacy needs. Many tutoring-based literacy programs simply focus on the child-tutor, one-to-one working relationship. Although one-to-one tutoring programs have been found to be effective, enhancing such programs with a family component enables the skills learned at the tutor session, to be practiced and potentially established at home. The findings of the current study support Timmons (2008) assumption that literacy programs are indeed more effective and sustainable when caregivers are involved. More generally, establishing effective literacy practices at home will likely lead to more systemic gains in literacy achievement throughout the academic careers of children.

Implications

The current study holds a number of implications for research, practice, and policy.

Research

Over the past decade research has emphasized the importance of emergent literacy and how children's emergent literacy development in preschool and kindergarten is significantly predictive of their later reading success (Adams, 1990; Mason & Allen, 1986; Snow, Burns & Griffin, 1998). As demonstrated by the sample of participants in the current study, a small subset of kindergarten children have not yet acquired sufficient emergent literacy skills and hence, are at-risk for becoming poor readers. However, this study also demonstrated that with effective literacy intervention, vulnerable children's emergent literacy may significantly improve.

There are a number of program-specific issues that may have directly impacted the results of the study and, as such, deserve attention. The study adapted a family literacy program called *Learning Begins at Home* (Doyle, et al., 2008). A primary focus of the program was on

children's development of print, phonological awareness, and letter-sound awareness. Research has consistently demonstrated that these three emergent literacy skill areas are paramount to any program attempting to support at-risk readers. In fact, research has demonstrated that phonological, print, and letter awareness are consistently statistically significant predictors of later reading (Snow et al., 1998; Snow, Tabors, Nicholson, & Kurland, 1994). The current study supports this previous research as the program used produced significant gains in all three areas of emergent literacy. It is important also to note that as a result of participating in the summer family literacy program, children demonstrated the largest gains in letter identification. Again, this finding is important as previous research has suggested that letter identification in kindergarten is the most statistically significant predictor of reading in the second grade (Catts, Fey, Zhang & Tomblin, 2001).

A second important research-based implication centers on the inclusion of families in the summer literacy program. Previous research has found that the literacy interventions are most powerful when they include the family and furthermore, caregivers need to be authentic partners within the intervention program (Timmons, 2008). Following this, the current study included a program that incorporated caregivers as an integral component to the entire program process. Specifically, participating children were required to have a primary caregiver attend each program session. During each session caregivers (parents, grandparents, etc.) attended workshops and worked with their child on important emergent literacy concepts (i.e. Letters and Sounds, Book Reading, Environmental Print, etc.). More specifically, caregivers learned new strategies to assist their child in literacy activities at home, and discussed their achievements while having their questions addressed by an Emergent Literacy Specialist. Although the current study did not include a direct measure of caregiver involvement, the December post-program

assessment results may indirectly indicate that caregivers continued using the strategies learned in the program at home with their children. Thus enabling the children's gains achieved from participating in the program to be sustained throughout children's kindergarten year.

The third research-based implication centers around the summer learning loss phenomenon referred to by Cooper et al., (1996). Children participating in the current study were deemed vulnerable for reading difficulties by their classroom teacher and subsequent screening assessments. On average, children had emergent literacy scores below the 25th percentile rank and had letter knowledge scores that were considered significantly lower than typical class averages. Research on the summer learning gap would predict that the children in this study would be particularly susceptible to a learning loss caused by the summer learning gap or summer vacation (Cooper et al., 1996). That is, participating children were at-risk for falling further academically behind their grade-level peers, particularly in their literacy skills. However, as suggested by Schacter and Jo (2005), children in this study participated in a summer learning program aimed at stopping the summer learning loss phenomenon. However, as a result of participating in the summer literacy program adopted in this study, children did not experience a summer learning loss and in fact, demonstrated significant gains in their emergent literacy skills.

Practice and Policy

The results of this study hold a number of practical and policy implications. Research has found that including family is an integral part of such intervention programs providing caregivers with confidence and support in assisting their children with literacy activities throughout the child's school career (Timmons, 2008). The adaption of the 'Learning Begins at Home Program' included caregivers as an important component to the overall program process. Outlined in the methods section, caregivers participated in a workshop where each session

allowed opportunities for learning, discussion and questions to be addressed regarding literacy skills and working with their children. Future literacy programs designed to support young vulnerable learners should include caregivers to enhance their literacy programs by having caregivers take the strategies and techniques into their homes.

Research has also indicated that a gap in the learning cycle occurring during the summer months, results in some children, specifically those at-risk for reading difficulties, to fall even further behind their peers in their literacy achievement (Cooper, et al., 1996). The current study focused on fostering the emergent literacy skills with the child-participants during the summer months. The positive results outline the need for emergent literacy programs and school boards to investigate the possibility of offering these programs to further serve these young vulnerable children. It is also important to note the successful collaboration between the researchers, Speech Language Pathologists, Literacy Specialists and primary school teachers. The collaboration of resources and knowledge among these professionals provided a strong and successful program to further serve this particular age group, thus suggesting future programs could explore the likelihood of collaborating with a variety of professionals seeking the same goal.

Limitations

This thesis has a number of limitations that are important to consider. First, this study had a relatively small sample size of fourteen child-participants. Having limited the sample size the research team was afforded the time for one-on-one attention to each participating-child, an important aspect to remedial instruction. The research team was also able to closely monitor the progress and achievements of the child-participants and their caregivers. Future studies should include a larger sample size of participants to create more generalizable and reliable results.

Second, although pre- and post-test analyses reveal statistically significant increases for all measures, these analyses do not indicate whether the increases were clinically significant. To address this issue, the current thesis adopted a research design approach whereby children's achievement scores were compared to normative benchmark scores indicated in the TOPEL technical data. However, a more thorough investigation of mean score gains should include a control group. Including a control group would enable a direct comparison of achievement between a program and non-program group enabling researchers to speak to the actual between-group differences. It would be important for future research to include a control group in this type of intervention study. A third limitation is the lack of direct measure of caregiver involvement. Although the current study uses the December post-program assessment point as a possible proxy for caregiver involvement, it would have been useful for future studies to further explore the specific success of the involvement of caregivers.

Conclusion

The aim of this thesis was to study how a summer family literacy program could support young children and their families. The results of this study hold important implications for research, policy, and practice around supporting young vulnerable learners and their families. First, young children at-risk for reading failure are particularly vulnerable during the summer months. As such, it is important that school boards and community agencies consider how to most effectively support vulnerable children over the summer vacation months. The results of this thesis imply that summer family literacy programs could play an important role in eliminating the summer learning gap. Moreover, including caregivers as an integral component in literacy programs will make a significant impact on how well and how long the gains of a

literacy program will be sustained. Furthermore, having the families as an integral part of the intervention empowers the parent and affords them a comfort level to continue to work with their child and subsequent children, throughout their school instruction. In general, children participating in the summer family literacy program did not experience a summer learning loss. Instead, children experienced gains in all of the emergent literacy skills measured in the study. The achievement gains should serve children well as they enter their kindergarten year, placing them commensurate with their typically achieving peers. Also, by including caregivers as an integral part of the summer program, it is hoped that the gains produced by the program will be sustainable as children progress through their elementary school years.

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APPENDIX

Ethics Clearance

DATE: July 13, 2009

FROM: Michelle McGinn, Chair
Research Ethics Board (REB)

TO: John McNamara, Child & Youth Studies
Ashley Graham, Jackie VanLankveld

FILE: 08-342 McNAMARA
Masters Thesis/Project

TITLE: Closing the Summer Learning Gap for Vulnerable Learners

The Brock University Research Ethics Board has reviewed the above research proposal.

DECISION: ACCEPTED AS CLARIFIED

This project has received ethics clearance for the period of **July 13, 2009 to April 1, 2011** subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The clearance period may be extended upon request. ***The study may now proceed.***

Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and cleared by the REB. During the course of research no deviations from, or changes to, the protocol, recruitment, or consent form may be initiated without prior written clearance from the REB. The Board must provide clearance for any modifications before they can be implemented. If you wish to modify your research project, please refer to http://www.brocku.ca/researchservices/forms to complete the appropriate form Revision or Modification to an Ongoing Application.

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-Council Policy Statement requires that ongoing research be monitored. A Final Report is required for all projects upon completion of the project. Researchers with projects lasting more than one year are required to submit a Continuing Review Report annually. The Office of Research Services will contact you when this form *Continuing Review/Final Report* is required.

Please quote your REB file number on all future correspondence.

MM/an
Research Ethics Office
Brock Research, MC D250A-1
Brock University

APPENDIX

Parent Invitation

Brock University

Department of Child and Youth Studies

St. Catharines, Ontario Telephone (905) 688-5550, Ext. 3835

Dear Parents,

You and your child are invited to apply to participate in a Summer Family Literacy Program. This program is being offered through a partnership between your school board, Brock University, and Speech Service Niagara. The program is free to participating families and will run each Tuesday and Thursday evening from 4:30 – 6:30 starting on Tuesday July 7th until Thursday August 6, 2009. The program will take place at an elementary school in Niagara Falls. As this is a family literacy program, in order to participate in this program, we require that participation of your child and at least one primary caregiver for each night of the program.

The summer literacy program is designed to promote reading-based skills in your child by encouraging the support of the family in building reading-based skills.

Each evening, all participating families will be provided with supper. A $10 honorarium will be provided to participating families upon completion of each night of the program ($100 total for 10 nights).

The program team is interested in testing how well this program works. Therefore, as a participant in this program your child will be administered a set of reading assessments before and after the program. Each assessment will take approximately 1 hour and will be conducted by a trained Literacy Specialist from Speech Services Niagara. All participating caregivers will also be asked to complete a family literacy questionnaire before and after the summer literacy program. The questionnaire consists of 10 questions aimed an assessing family literacy activities and attitudes. The survey takes approximately 15 minutes to complete. The survey will be administered on the first and last night of the program. All information you provide will be considered confidential; your name will not be included or, in any other way, associated with the data collected in the study. Furthermore, because our interest is in the average responses of the entire group of participants, you will not be identified individually in any way.

If you are interested in participating in this program or learning more about this project please complete and return the attached form to your child's school and one of the project leaders will contact you with more information.